



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,439	06/03/2005	Roger P Reid	3841	7462
27727	7590	07/18/2007		
PEDERSEN & COMPANY, PLLC P.O. BOX 2666 BOISE, ID 83701			EXAMINER KIM, SUN U	
			ART UNIT 1723	PAPER NUMBER
			MAIL DATE 07/18/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/509,439

Applicant(s)

REID ET AL.

Examiner

John Kim

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31 and 33-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31 and 33-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1723

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 37-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Recitations of "the primary material" in claim 37 and "said active particles" in claim 38 lack a positive antecedent basis.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 31 and 33-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Kelly et al (US Patent No. 6,793,866 B2) in view of VanderBilt et al (US Patent No. 4,753,728).

Regarding claims 31 and 33-34, Kelly et al teach a method of making a granular fluid treatment media comprising mixing together only binder material and activated carbon which are sorbent materials, heating the resulting mixture to a temperature of 3 to 30 degree C above the

Art Unit: 1723

crystalline melting point of the polyolefin binder wherein a melting point of LDPE powder is approximately 110 degree C; therefore, 30 degrees C above the melting point of LDPE powder is 140 degrees C which is 284 degrees F which is within the claimed range and wherein at such temperature, the polyolefin binder material softens for activated carbon to adhere to the binder material, cooling the mixture wherein no solid support material other than binder is included in the mixture (see col. 2, lines 21-38; col. 3, line 31 –41; col. 5, line 55 – col. 6, line 4; col. 8, lines 40-55; col. 10, line 57 – col. 11, line 15). Kelly et al further teach that binder material has a melt indexes from 1 to 200 g/10 min (see col. 4, lines 23-32) and a low pressure of from about 2.5 psi up to about 40 psi is applied to the mixture to effect the desired degree of point bond formation of particles (see col. 9, line 56 – col. 10, line 4). Claims 31 and 33-34 essentially differ from the method of Kelly et al in reciting the binder material having a melt index of less than or equal to 1g/10 min and no compression of the mixture. VanderBilt et al teach a granular fluid treatment media comprising the use of polyolefin binder material having a melt index of less than or equal to 1 g/10 min (see col. 3, lines 28-40; Table I) for binding carbon particles (see col. 1, line 65 – col. 2, line 8; col. 4, lines 1-7) wherein such very low melt index binder material becomes tacky without becoming sufficiently liquid to substantially wet the carbon particles surface and deleterious diminution of the effective carbon surface area is minimized (see col. 1, line 65 – col. 2, line 8). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of Kelly et al with polyolefin binder material having a melt index of less than or equal to 1 g/10 min for binding carbon particles together without excessively wetting the carbon particles when melted and thereby effectively occluding much of the surface area of the carbon particles as suggested by VanderBilt et al (see col. 4, lines 1-7). In

Art Unit: 1723

other words, the use of such low melt index binder material prevents covering of active surface area of carbon particles in the mixture and allows binding of particles without compression.

Regarding claim 35, Kelly et al teach polyolefin binder material including polyethylene having crystalline melting points from 50 to 200 degree C (see col. 4, lines 23-33). However, Kelly et al is silent on Vicat softening point of the polyolefin binder material. As an evidence of the Vicat softening point of polyolefin binder material, VanderBilt et al teach that polyolefin binder material including polyethylene has a Vicat softening temperature of 74 degree Celsius which is 165 degree Fahrenheit (see col. 3, lines 48-51).

Regarding claim 36, Kelly et al teach that binder particles size is between 5 and 125 microns which are less than 150 microns (see col. 2, lines 20-28).

Regarding claim 37, Kelly et al further teaches that activated carbon particles has an average particle size of 12 to 325 mesh which are 44 to 1680 microns (see col. 3, lines 49-51). It would have been obvious to one having ordinary skill in the art at the time the invention was made to discover optimal diameter of activated carbon less than 150 microns, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Regarding claim 38, Kelly et al teach fluid treatment media comprising a mixture of 80 weight % of activated carbon and 20 weight % of polyethylene binder powder (see samples A-E of Table in col. 11-12).

Regarding claim 39, Kelly et al teach that polyolefin binder particles are less than 150 microns (see col. 2, lines 20-28) and activated carbon particles has an average particle size of 12 to 325 mesh which are 44 to 1680 microns (see col. 3, lines 49-51). It would have been obvious

Art Unit: 1723

to one having ordinary skill in the art at the time the invention was made to discover optimal particle size of binder material and activated carbon to be less than 150 microns, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

5. Claims 31 and 33-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tang et al (US Patent No. 5,332,426) in view of VanderBilt et al.

Regarding claims 31 and 33-34, Tang et al teach a method of making a granular fluid treatment media comprising mixing together only binder material and activated carbon which are sorbent materials, heating the resulting mixture to a temperature of 165 degree Celsius which is 329 degree Fahrenheit wherein at such temperature, the polyolefin binder material (see col. 3, Lines 42-47) softens for activated carbon to adhere to the binder material without compression, cooling the mixture wherein no solid support material other than binder is included in the mixture (see col. 5, line 56 – col. 7, line 30). Claims 31 and 33-34 essentially differ from the method of Kelly et al in reciting the binder material having a melt index of less than or equal to 1g/10 min. VanderBilt et al teach a granular fluid treatment media comprising the use of polyolefin binder material having a melt index of less than or equal to 1 g/10 min (see col. 3, lines 28-40; Table I) for binding carbon particles (see col. 1, line 65 – col. 2, line 8; col. 4, lines 1-7) wherein such very low melt index binder material becomes tacky without becoming sufficiently liquid to substantially wet the carbon particles surface and deleterious diminution of the effective carbon surface area is minimized (see col. 1, line 65 – col. 2, line 8). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the method of Kelly et al with polyolefin binder material having a melt index of less than or

Art Unit: 1723

equal to 1 g/10 min for binding carbon particles together without excessively wetting the carbon particles when melted and thereby effectively occluding much of the surface area of the carbon particles as suggested by VanderBilt et al (see col. 4, lines 1-7). In other words, the use of such low melt index binder material prevents covering of active surface area of carbon particles in the mixture.

Regarding claim 35, Tang et al teach polyolefin binder material (see col. 3, lines 45-47). However, Tang et al is silent on Vicat softening point of the polyolefin binder material. As an evidence of the Vicat softening point of polyolefin binder material, VanderBilt et al teach that polyolefin binder material including polyethylene has a Vicat softening temperature of 74 degree Celsius which is 165 degree Fahrenheit (see col. 3, lines 48-51).

Regarding claim 36, Tang et al teach that binder particle size is less than about 100 mesh (149 micron), preferably less than about 250 mesh (see col. 3, lines 40-42).

Regarding claim 37, Tang et al teach that activated carbon particles can be as small as 300 mesh (about 48 microns) but will have typically have a mesh size ranging from about 10 to about 100 (see col. 3, lines 18-22). It would have been obvious to one having ordinary skill in the art at the time the invention was made to discover optimal diameter of activated carbon less than 150 microns, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Regarding claim 38, Tang et al teach fluid treatment media comprising a mixture of 85 weight % of activated carbon e.g. 200g/234g and 15 weight % of binder powder e.g. 34g/234g (see example 1 in col. 5).

Art Unit: 1723

Regarding claim 39, Tang et al teach that activated carbon particles can be as small as 300 mesh (about 48 microns) (see col. 3, lines 18-22) and the binder particle size is less than about 100 mesh (149 micron), preferably less than about 250 mesh (see col. 3, lines 40-42). It would have been obvious to one having ordinary skill in the art at the time the invention was made to discover optimal particle size of binder material and activated carbon to be less than 150 microns, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

6. Applicant's arguments with respect to claims 31 and 33-39 have been considered but are moot in view of the new ground(s) of rejection.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 1723

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kim whose telephone number is 571-272-1142. The examiner can normally be reached on Monday-Friday 7 a.m. - 3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


John Kim
Primary Examiner
Art Unit 1723

JK
7/15/07